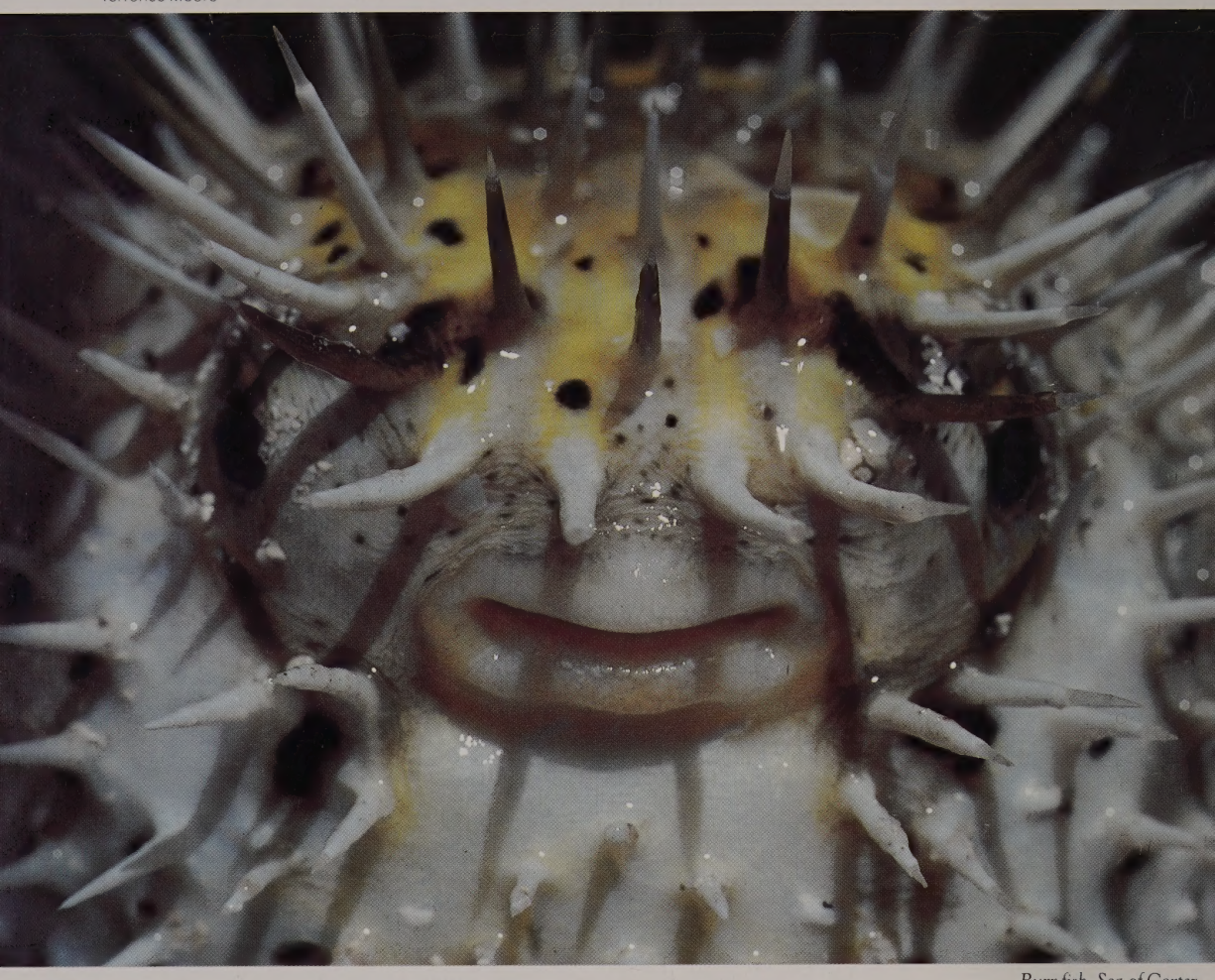
THE NATURE CONSERVANCY NEWS

January-March 1986

CONSERVING THE TROPICS

Terrence Moore



Burr fish, Sea of Cortez

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THE NATURE CONSERVANCY NEWS

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COVER: Conspicuous in their vibrant plummage, scarlet macaws have long been valued and hunted by commercial traders. This threatened species is now protected by CITES (Convention on International Trade in Endangered Species). Photo by Kjell B. Sandved.

The Nature Conservancy is a national conservation organization committed to the preservation of natural diversity by protecting lands and waters supporting the best examples of all elements of our natural world.

To date the Conservancy and its members have been responsible for the preservation of 2,480,514 acres of forests, marshes, prairies, mountains, deserts, and islands: home to rare and endangered species of wildlife and plants. 3,889 projects have been completed since the acquisition of the first preserve in 1954. Approximately 60% of all preserves are retained by the Conservancy and managed by staff and volunteer land stewards.

A membership organization, the Conservancy was incorporated in 1951 in the District of Columbia for scientific and educational purposes. The Nature Conservancy is a nonprofit, tax-exempt corporation under Section 501(c)(3) of the Internal Revenue Code and is a publicly supported organization as defined in Sections 170(b)(1)(vi) and 509(a). All contributions are tax-deductible.

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The Nature Conservancy

A copy of the last financial report filed with the Department of State may be obtained by writing to: New York State, Department of State, Office of Charities Registration, Albany, New York 12231, *or* The Nature Conservancy, 1800 North Kent Street, Arlington, Virginia 22209.

The International Program: A Progress Report

By Spencer B. Beebe and Peter W. Stroh

LISTEN. We may be hearing a new kind of Silent Spring. Wood thrushes nesting on eight acres in North America concentrate on just two acres in their Central American wintering habitat. Studies are beginning to show that if the thrushes' two acres of tropical forest are cut, either by rapidly advancing slash and burn agriculture or by commercial clearing, the displaced migrants probably will not survive.

According to Roger F. Pasquier in "Whose Birds Are They" (July/August 1982 *News*), "Nearly half the birds that breed in North America head south each year and spend up to six or seven months on their wintering grounds, perhaps another month or two commuting each way, and only a brief eight to ten weeks building a nest and raising their young before going south again. The countries where these species winter may justifiably claim the birds as their own."

Those countries lie to the south of us. Many of the thrushes, warblers, vireos, and flycatchers that sing in our backyards in the spring, during their breeding season, are but brief visitors from their wintering grounds in Mexico, Central America, the Caribbean, and northern South America. To save them here, they must be saved there as well.

The health and welfare of our own environment and its species are related to ecological stability in other parts of the biosphere. If we have learned anything from the past two decades of increasing environmental awareness, it is that the Earth's living components are interconnected, interrelated, and interdependent. Thus, we are beginning to recognize that biological conservation is, by definition, a global business. We also are realizing that ecological well-being is intimately related to economic, social, and political stability as well. We share the consequences of environmental management—or mismanagement—in the tropics just as we share in the economic cause and effect of the $360 billion Latin American debt.

Why is The Nature Conservancy working in places like Bolivia, Venezuela, and Mexico? Because the threatened piping plovers we are trying to protect in North Dakota winter in the Yucatan. Because the loggerhead sea turtles tagged on our Blowing Rocks Preserve in Florida are sometimes recovered in the Bahamas or in the West Indies. Because species worldwide are disappearing at the rate of roughly 1,000 per year, and most of them are found in the tropics. For example, there are more bird species in Sangay National Park in Ecuador than in all of North America. And, in Colombia's Choco region, we have an opportunity to preserve more plant species in a *single* new reserve there than we have protected throughout

Joan Pennington

the U.S. after years of effort. If the Conservancy does not strive to save species and their habitats on a global scale, it will not fulfill its mission to preserve biological diversity.

NONETHELESS, North Americans cannot and should not attempt to solve the conservation problems of other sovereign nations. Nationals from those countries ultimately must tackle these problems themselves, in their own ways. But the Conservancy can help. Because of its experience in building strong partnerships with federal and state governments, with business, and with other private environmental groups—as well as in developing highly successful preservation programs on a state-by-state and nationwide basis—the Conservancy possesses the planning, managerial, and financial skills to assist other countries in establishing their own conservation organizations.

Our approach abroad is to share our experiences and expertise with similar-minded people and institutions. Our initial goal is to help the nationals of tropical countries to preserve their nations' natural diversity. Our ultimate goal is the building of a global conservation capacity, on a country-by-country basis.

In working with our colleagues abroad, we support and train conservation professionals from Latin America and assist them in establishing national government or nongovernment conservation institutions in their own countries. We help them build conservation data centers—the biological inventories that are the equivalent of our natural heritage programs here. And we try to assist in relaying sound biological information and protection priorities to the potential users of such information. We work primarily in the private sector, where leadership can possibly provide direction and additional continuity to a country's government policies and programs.

Through its International Program, the Conservancy has helped to establish projects and programs in ten Latin American countries: Colombia, Bolivia, Paraguay, Ecuador, Peru, Panama, Venezuela, Costa Rica, Mexico, and Puerto Rico. In the following pages of this *News* issue, our country directors (most of them nationals of the countries in which they are working), along with other members of the International Program staff, describe their efforts.

Andrés Marcelo Sada

The Conservancy's International Advisory Committee chairman Charles J. Hedlund birdwatching in the pine forests near San Cristobal de las Casas, Chiapas, Mexico.

MANY CONSERVANCY members and supporters, as well as conservationists across the U.S., are beginning to recognize the great loss of life associated with tropical deforestation. For example, last September the International Program received two contributions to its Galapagos Islands Campaign (see page 20)—one of $700, the other of $900. These donations represented half the summer earnings of two teenage brothers who had visited the islands the year before. In October, the John D. and Catherine T. MacArthur Foundation announced a $2.1 million three-year challenge grant to four U.S. conservation organizations to encourage the development of indigenous conservation efforts in ten Latin American countries. The Conservancy's International Program was awarded $956,000 of that grant.

We greatly appreciate these and other forms of financial assistance. But they are only a beginning. According to Charles J. Hedlund, chairman of our International Advisory Committee (and recently retired chairman of the Conservancy's Board of Governors), "We estimate that over the next ten to 15 years, roughly $75 million will be needed to develop indigenous programs in Latin America. Yet despite this immense funding challenge—and the challenges we face in each tropical nation—the Conservancy's International Program is building a sound foundation for conservation efforts on a global basis."

Spencer B. Beebe is president of the Conservancy's International Program. **Peter W. Stroh** is chairman of the International Committee of the Conservancy's Board of Governors as well as chairman of The Stroh Brewery Company.

Frans Lanting

Green iguana

Loren McIntyre

Ocelot

Kjell B. Sandved

Blue and yellow macaw

The Urgency of Tropical Conservation

By Peter H. Raven

SHARING THE PLANET Earth with us are at least four to five million species of animals, plants, and microorganisms, most of which are poorly known. About two-thirds of them have not even been given scientific names.

Of all the world's species, roughly ten percent occur in the United States and Canada together. We can state with confidence that most of these plants, vertebrates, and larger invertebrates and fungi have been studied and classified. Furthermore, we now know that some 5 to 10 percent of North America's species are threatened or endangered, and we are making advances in protecting them.

But to think that by "taking care of our own" we are saving a large proportion of the world's organisms is to delude ourselves. It is to the tropics that we must turn. For instance, about a third of the total number of Earth's plants, animals, and microorganisms occur in Latin America. Of these, only about a sixth have been catalogued. Of the remainder, amounting to nearly 30 percent of all the planet's organisms, we know absolutely nothing. Some scientists, including Terry Erwin of the U.S. National Museum of Natural History, have estimated that the total number of species in Latin America might be much higher. His calculations indicate a regional total of perhaps 15 million species. But whatever the final figure, the number of unknown species is staggering.

For example, South America's fresh waters are inhabited by an estimated 5,000 fish species, only about 3,000 of which have been named. (This amounts to about an eighth of all the world's fish species.) On the eastern slopes of the Andes, 80 or more species of frogs and toads often exist within a

single square mile—almost as many as in all of temperate North America. Approximately the size of the state of Colorado, Ecuador harbors more than 1,300 species of birds—roughly twice as many as those inhabiting the United States and Canada.

Moreover, hundreds of *new* species of plants—including many dozen tree species—are being discovered in Latin America every year, as are dozens of new species of terrestrial vertebrates and fishes. Over a third of the nearly 800 species of reptiles and amphibians known to occur in Ecuador have been discovered since 1970, and many more are still being found there. In fact, the three northern Andean countries of Colombia, Ecuador, and Peru combined are home to about a sixth of all the Earth's biota—some 750,000 species that are also the most poorly known organisms on our planet.

Such richness, paired with a lack of knowledge, makes it imperative that biological surveys like The Nature Conservancy's conservation data centers (see "Ecology Forum") be initiated in all the countries of the tropics. Only with continuously updated biological information can the people of any country take appropriate steps to preserve and wisely use their nation's species and natural ecosystems.

The actual and potential importance of species for human welfare cannot be overstated. About 85 percent of our food is derived directly or indirectly from 20 species of plants, and some 60 percent comes from only three: corn, wheat, and rice. It stands to reason that among the world's remaining estimated 235,000 known flowering plant species, there must be many more that could provide important sources of food—not to mention medicines, oils, chemicals, and sources of renewable fuels. Our continued survival depends on our ability to use plants, animals, and microorganisms extensively and wisely. Yet we know absolutely nothing about most tropical organisms, and we certainly haven't examined them for their potential value to humans. By saving the tropical forests and their myriad plant and animal species, we also will be investing wisely in the future survival of our own species.

BUT DESPITE ITS RICHES, tropical vegetation worldwide is being altered or eradicated at an alarming rate. In 1981, the Tropical Forest Resources Assessment Project of the United Nation's Food and Agriculture Organization (FAO)

Terrence Moore

Though capable of dwarfing airplanes (opposite) and appearing as much fortressed as buttressed (above), tropical rainforests are nevertheless extremely fragile and are being destroyed at an alarming rate.

Loren McIntyre

estimated that 44 percent of the tropical rain forests had already been degraded or destroyed by 1980. Currently—according to an international task force sponsored by the World Resources Institute, The World Bank, and the United Nations Development Programme—27 million acres (an area larger than Austria) of tropical forest are being cleared each year. This is some 50 acres per minute. (The task force has launched an $8-billion campaign to reverse tropical deforestation by 1991.) If present trends continue, the rich tropical moist forests of many developing countries will disappear in the next two to three decades.

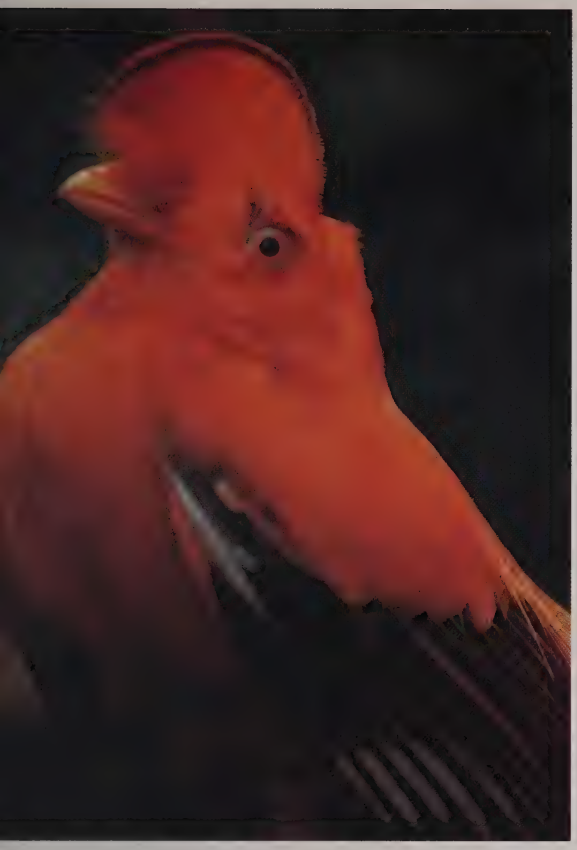
Whatever the estimates, the destruction is disastrous and is probably accelerating because the population in tropical countries is growing so rapidly. Since 1950, the number of people in tropical and subtropical countries has grown from 1.1 billion to approximately 2.5 billion. With 80 million people added each year, this population alone is projected to reach about 5 billion—equal to the entire globe's current population—within 35 more years.

With no other options for feeding their families, the estimated 1 billion people of the tropics living in what The World Bank defines as absolute poverty are consuming the forests. They clear it a couple of acres at a time, cultivating small patches for a few years and then moving on when the generally poor soils have been depleted. (Many tropical soils—and most of those in Latin America—are acidic and infertile; they cannot be cultivated on a sustainable basis.) Areas in which the tropical forests have been most heavily cleared or degraded include Mexico, the West Indies, Central America, the Andean countries of South America, the southern and eastern fringes of the Amazon, all of Africa and Madagascar (outside the Zaire Basin), and all of tropical and subtropical Asia.

The human consequences of this devastation are profound. Famine in the tropics stems directly from overpopulation and overuse of resources, with the effects of droughts simply being amplified by the existing conditions. Political instability is widespread in the tropical and subtropical countries. The nations of the developed world will be less and less able to interact with these countries until they attain stable populations, provide reasonable expectations for their poor, and deploy sustainable agricultural and forestry practices throughout their lands.

THE GREATEST CONSEQUENCE of all, however, is that of biological extinction—the extermination of a major fraction of Earth's plants, animals, and microorganisms during the lifetimes

Loren McIntyre



Loren McIntyre

Loren McIntyre

When is wide geographic range not enough for survival? In these three cases, when a species has very narrow ecological requirements: Geographically, oilbirds (left) range from the Guianas and Venezuela to Bolivia; they also occur on Trinidad. However, these cave dwellers are known from fewer then one dozen colonies. Top: found from eastern Colombia through Venezuela, the Guianas, and Brazil, the Guianan cock-of-the-rock requires lower montane humid forests – habitat that is quickly being lost to development. Above: smallest of all monkeys, with a mean weight of just 100g, the pygmy marmoset is found sporadically in Amazonian rainforests from eastern Colombia south to Peru.

of most people living today. Many tropical organisms are very narrow in their geographical ranges and highly specific in their ecological requirements. At least 40 percent of the world's species occur in the very tropical forests that may not survive the next few decades. The loss of only half these organisms would amount to the permanent disappearance from our planet of at least 750,000 species – a far greater number than the *total* number of species found in the United States and Canada. If we wish to preserve the world's biota, can it be doubted that our major concern in the closing years of the 20th century and the early years of the 21st century must be with the tropics?

In areas such as Madagascar, coastal Ecuador, and the Atlantic forests of Brazil, all of which have lost more than 90 percent of their natural vegetation, extensive extinction has undoubtedly already occurred. The ecological theory of island biogeography predicts that a decrease of an area to a tenth of its original size should eventually result in the extirpation of half its species. Each of the three areas just mentioned is believed to harbor roughly 5,000 endemic plant species, as well as perhaps 100,000 endemic species of organisms of all kinds. Thus, we can estimate that in all three areas combined perhaps 150,000 species of plants, animals, and microorganisms have already been extirpated or are presently vanishing from their small remaining islands of vegetation. Projecting these figures throughout the world – and keeping in mind the totally inadequate state of our knowledge of tropical organisms – we can estimate that some 750,000 species will become extinct over the next few decades. This amounts to a loss of several species each hour.

To find an extinction event of this magnitude in the geological record, one needs to go back some 65 million years to the end of the Cretaceous Period when – possibly spurred by a cloud thrown up by the collision of a gigantic meteorite with the Earth – a large proportion of the Earth's organisms, including the dinosaurs, became extinct. The extinction that is taking place now will occur during our lives and those of our children. But we can ameliorate its effects by learning about tropical organisms and using our knowledge to save them. Our contribution to preserving natural diversity will be minute if we do not look beyond our own borders to the tropics. This task is one of extreme urgency. If we succeed, we shall play an important role in shaping the quality of life for all who come after us.

Dr. Peter Raven is director of the Missouri Botanical Gardens and Engelmann Professor of Botany at Washington University. He is also the author of *Biology of Plants*, the country's leading botany text.

Terrence Moore

Stretching up between Mexico and Baja California, the Sea of Cortez contains an archipelago of 40 desert islands protected under Mexican law.

A Tour of Country Programs

The Nature Conservancy's International Program has extended its activities into ten neotropical countries. In a whirlwind north-to-south tour, we highlight Conservancy activities in eight of these countries.

MEXICO

When Hernan Cortez trekked overland from Mexico City to Honduras in 1526, he described an incredibly rich landscape, characterized primarily by expansive forests of many kinds—from highland pines to lowland rain forests. This immense natural diversity coexisted with a large and highly advanced human population that, in many areas, may have been as large as that found today. Even as late as 1926, the *Naturalist's Guide to the Americas* (published by the Ecological Society of America, the Conservancy's precursor organization) reported that "much of Mexico remains in essentially primeval condition."

Unfortunately, this is no longer true. Many traditional social systems that permitted sustainable, rational use of natural resources have simply broken down under the pressures of modernization. According to estimates made by the International Program's Biogeography Project, nearly 45 percent of Mexico's remaining forests have been significantly disturbed. Their conversion, particularly for cattle grazing, proceeds at a rapid rate, and many forest types are not expected to survive this century if current patterns continue.

The Conservancy is taking an active role in supporting and working with Mexican organizations directly involved in land conservation. In the Sea of Cortez (Gulf of California), an archipelago of more than 40 desert islands—many of them harboring endemic species—has been protected under Mexican law. The International Program is helping the National University to complete a biological inventory of these islands (and of the sea itself) and to design a management plan.

A proposed UNESCO Man and the Biosphere Reserve lies on the opposite side of the country. *Sian Ka'an* (Mayan for "Road to the Sky") embraces more than one million acres of lowland tropical forest, wetlands, and coral reefs on the Caribbean coast of the Yucatan Peninsula. While the International Program is cooperating with *"Patronado Amigos de Sian Ka'an"* to develop a funding and management program for the reserve, *"Amigos"* is working closely with local populations of fishermen and Mayan Indians to ensure that their ways of life are taken into account in the management plan.

In addition to forming partnerships with local organizations to create habitat-protection plans, the International Program is engaged in establishing a Mexican conservation data center. It also assists *PRONATURA*, Mexico's most important national private conservation organization.

PRONATURA supports land-conservation projects carried out by local conservation groups across the country. One such effort is the protection of a "fragmented forest" in the Sierra Madre of Chiapas on Mexico's southern Pacific Coast. Since the few reserves in this region are inadequate to preserve its wealth of species and natural communities, *PRONATURA* has initiated a program that encourages local inhabitants to create and safeguard an archipelago of "island" habitats connected by corridors of natural and semi-natural lands. Linking these island preserves will improve the ability

Loren McIntyre

Ken Creighton

A spectacular sunset on the beach at Costa Rica's Santa Rosa National Park (top). With Latin America's best park system, Costa Rica may be able to stem the habitat destruction that threatens many of its species, including this wooly possum.

of species to breed with other nearby populations and also may provide a better mixture of habitats. Such a project should serve as a model for additional local conservation projects in Mexico and in other neotropical nations.

COSTA RICA

When the Campaign for Costa Rican Parks was still an idea, in 1982, no private institution existed to assist the country's National Park Service in its goal to preserve Costa Rica's natural heritage. At that time, the National Parks Foundation had a staff of four and very little practical capability. Today, the Foundation's staff numbers 25 and is skilled in environmental education, in acquiring and managing natural lands, and in administering major conservation projects. Through the Costa Rican Conservation Data Center, which it oversees, the Foundation is "filling in the gaps" by targeting for protection species and natural communities not included in the country's existing system of 22 parks and reserves.

The Parks Foundation has used its skills to consolidate the national park system. Since its establishment, 32,000 acres have been added to the system, the training of park employees has been greatly improved, materials and equipment

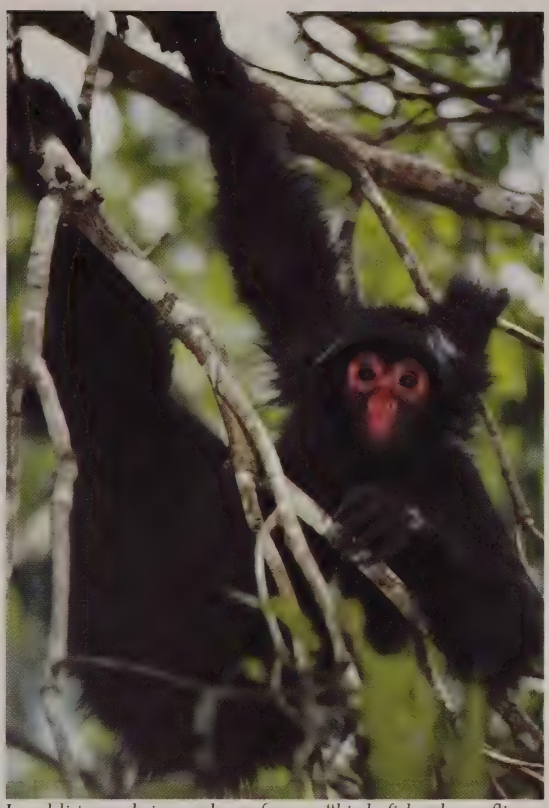
have been provided, and management plans are now in place or are being formed for all parks and reserves. To accomplish these tasks, the Foundation—with the help of the Conservancy, the World Wildlife Fund-U.S., and other organizations—has raised $3.8 million toward its $5.5-million Campaign for Parks goal.

Widely recognized as the best in the neotropics, Costa Rica's park system is an expression of the Costa Rican peoples' concern for the environment, as well as an important part of Costa Rica's image in the world. Moreover, the nation's second largest source of income is tourism (coffee is first), and its parks and reserves attract a significant number of visitors.

The directors of the National Parks Foundation also have established *Fundacion Neotropica* to help deal with the social challenges most closely related to biological diversity conservation and the sustainable use of natural resources: deforestation, poverty, and population growth. *Fundacion Neotropica* marks a new stage of maturity for the Costa Rican conservation movement.

PANAMA

Panama is a pre-Colombian name that might be translated as "place of many birds-fishes-butterflies-trees." Even today, after a great deal of alteration, Panama still hosts some 800 bird species and more than 1,222 known endemic species of plants and



Frans Lanting

In addition to being a place of many "birds-fishes-butterflies-trees," Panama is also a place of many mammals, one of which is the endangered spider monkey.

With key nesting sites for many bird colonies, including white ibis and cattle egrets, the Gulf of Panama is a target for conservation efforts.

Terrence Moore

At 7,000 feet, gracefully fringed palms decorate the Venezuelan jungle.

Guiseppe Mazza

The cotton-top tamarin, called pinche *in Colombia, is the symbol for the* Fundacion Natura. *Endemic to northwestern Colombia, the cotton-top is imperiled by habitat destruction within its small range.*

animals—all in an area about the size of South Carolina.

Incorporated in Panama City in August 1985 with the help of the Conservancy's International Program, ANCON *(Asociacion Nacional para la Conservacion de la Naturaleza)* is an indigenous private conservation organization. It takes its acronym-name from *Cerro Ancon,* the forested hill that overlooks Panama City and over which flies a Panamanian national flag the size of a basketball court.

With 60 percent of Panama's forest cover already destroyed—and deforestation continuing at a deadly rate—ANCON is exploring several private conservation projects. It also is well on its way towards initiating a cooperative project with the national government to improve the protection of 55,000-acre Soberania Park, which lies in the watershed that feeds essential fresh water to the Panama Canal. Another potential project is the preservation of key nesting sites for marine bird colonies in the Gulf of Panama.

VENEZUELA

The great German naturalist Alexander von Humboldt wrote of Venezuela in words that would

lure many Europeans to explore its incredibly varied landscape: vast savannas, Amazonian rain forests, coastal lagoons, snowy Andean peaks, and island-riddled shorelines. Today, we can be more specific. For instance, of all the Earth's bird species, Venezuela harbors 15 percent; of crocodiles, 25 percent; and of turtles, 10 percent. In addition, more than 20,000 plant species have been identified, and at least 10,000 others may await description.

Venezuela is fortunate. It boasts a solid scientific community, a sophisticated business sector, and a government sensitive to conservation. Not surprisingly, the Conservancy's efforts there have been welcomed. Only after a few months of its inception, the Venezuela Country Program is playing a key role in the creation of three reserves in three of the nation's major ecosystems—Andes, savanna, and semi-arid coastal areas. These efforts are supported by local communities and are being pursued jointly with scientific institutions, universities, and Venezuelan scientists.

The future of conservation in Venezuela looks promising. Its leaders are committed to seeing that it is one of the few nations in the world where full development is achieved with a minimal loss of species or natural communities.

COLOMBIA

Like other Latin American countries, Colombia possesses an immense cornucopia of species: 50,000 flowering plants, 15 percent of the world's trees, and more species of mammals than are found in Africa south of the Sahara. And, like its neighbors, it also suffers from accelerating environmental degradation.

In 1984, the Conservancy's International Program helped create *Fundacion Natura*, a private indigenous organization. Now, in cooperation with the Cauca Valley Corporation—a regional authority responsible for watershed and park management, urban-growth planning, and development of hydropower—*Fundacion Natura* has established a regional conservation data center to identify the biota of an area encompassing 28 watersheds. The data center already has targeted two sites here in need of protection. One of these, a 1,000-acre tract of forest on the Rio Nima, bears the only unpatrolled entrance to the adjacent 320,000-acre Las Hermosas National Park. By working with the Cauca Valley Corporation and a local municipality to acquire the parcel (early this year), *Fundacion Natura* will help control the numbers of poachers and squatters in Las Hermosas.

Guillermo Mann

The Conservancy's Bolivia program director Maria Teresa Ortiz at Beni Biological Reserve.

The other site is Laguna Sonso, a low-elevation lake of about 1,500 acres that used to be connected by a number of channels to the Cauca River. Now all but one of the channels has been filled, and many of the surrounding wetlands have been drained. As late as 1967, some 220 bird species were using the lake (51 of them migratory); today, only about 100 species are present. *Fundacion Natura* is seeking an international expert in freshwater systems to determine whether or not the lake's natural water regime can be restored. If so, the *Fundacion* will help implement the restoration.

BOLIVIA

Often called the "Tibet of South America," Bolivia is a nation of striking contrasts. Three times the size of California, it takes in tropical, subtropical, and temperate zones. Snowcapped mountains over 20,000 feet in height break the horizon along the Andes Mountain range. Lowland swamps, extensive savannas, and Amazonian forest make up 70 percent of Bolivia's territory.

It was here that legendary civilizations flourished: the Tiwanaku (500 B.C.) and the Incan Empire (1200 A.D.). Today, 85 percent of Bolivia's six million people are of Indian ancestry.

Bordered to the northeast and west by a vast stretch of open, seasonally inundated savannas, the 375,000-acre Beni Biological Reserve in eastern Bolivia hosts diverse forest formations and supports 13 of the country's endangered animal species as well as approximately 600 bird species. (Bolivia harbors one-third of the neotropic's bird species.) The reserve also embraces the ancestral home of the Chimane Indians.

Working with Bolivia's Academy of Sciences and the Institute of Ecology, the Conservancy's International Program has acquired a 6,000-acre ranch adjacent to the Beni Reserve. The property will serve as the sanctuary's administrative headquarters and research station. In addition, the International Program is coordinating a long-term management plan for the reserve.

The International Program also has signed an agreement with the Museum of Natural History (through the Academy of Sciences) and the Institute of Ecology (through the *Universidad Mayor de San Andres)* to create a conservation data center for Bolivia. It will be an invaluable tool for government, academic, and private organizations in identifying conservation priorities and planning for the judicious use of the nation's natural resources.

N. Simmons

Through Peru's Conservation Data Center, conservationists are striving to evaluate the country's biological diversity, its existing park system, and its economically important natural resources. Above: Huascarán National Park.

Faring far better than its California cousin, the Andean condor is fairly common in some parts of its range but threatened in others.

PERU

A long, narrow country snaking up the western edge of the South American continent, Peru encompasses major segments of the Andes Mountains and the Amazon Basin, as well as a vast sweep of Pacific coastline. Roughly 60 percent of its original forest cover remains uncut.

With assistance from the Conservancy and the World Wildlife Fund-U.S., Peru's *Fundacion Peruana para la Conservacion de la Naturaleza* was incorporated in 1985. This young organization now has a board of directors, a small staff, and is laying its first plans. Its director will be working out of the Conservancy's International Program office during most of 1986. A private conservation organization, the *Fundacion* is seeking to coordinate the activities of other nongovernmental groups in Peru; its objective is the preservation and wise use of the country's natural resources.

Meanwhile, the Peruvian Conservation Data Center, established in 1983, is gathering and maintaining continually updated information on the nation's critical plant and animal species and community types and providing this data to key decision makers. For example, it has signed an agreement with Peru's National Park Service stipulating that it will supply all needed biological information to the Park Service. More recently—in cooperation with the United Nations' Food and Agriculture Organization—the data center has completed a study of the status and distribution of 22 commercially valuable timber species. And this year, it will publish an overview of Peru's biological diversity, which will be followed by an evaluation of the country's existing system of parks and reserves.

PARAGUAY

Historically, Paraguay has been neglected by international conservation organizations. Until recently, its low population provided *de facto* protection for many natural areas. However, the recent upsurge in both the nation's economy and population now threatens the untrammeled grasslands and lush forests. The government has shown support for conservation by establishing about 2.4 million acres of national parkland in ecologically significant areas, such as the Gran Chaco region.

Currently, the Conservancy's International Program is putting the finishing touches on a three-year agreement with the government of Paraguay to initiate a program that will focus on strengthening the nation's system of parks and protected areas. This joint effort will include the creation of a private conservation institution and a conservation data center. The International Program also will assist in training conservation officials.

PRESERVATION PROGRAMS throughout the neotropics are developing at a rapid rate. Nonetheless, they are being outpaced by the destruction of tropical ecosystems, and there is much to do before conservationists can lay claim to the "Greening of the Americas." After five years of intensive efforts, however, The Nature Conservancy *can* claim that the most productive approach to conservation in the tropics is to build a global capacity for conservation on a country-by-country basis. Using this method, the Conservancy's International Program is constructing a sound foundation for the preservation of biological diversity all over the world.

The authors of the preceding country-by-country vignettes are **Ron Nigh,** conservation fellow (Mexico); **Liliana Madrigal,** director of the Costa Rica Country Program; **Juan Carlos Navarro,** executive director of ANCON (Panama); **Aldemaro Romero,** director of the Venezuela Country Program; **Ernesto Barriga,** executive director of *Fundacion Natura* (Colombia); **Maria Teresa Ortiz,** director of the Bolivia Country Program; **Carlos Ponce,** executive director of FPCN (Peru); and **John E. Earhart,** director of the Paraguay Country Program.

Frans Lanting

Blue-footed boobies parade across a lava coast.

Campaign for the Galapagos Islands

By Ashley Boren, Director of the Ecuador Country Program

EVER SINCE CHARLES DARWIN'S historic visit there in 1835, the Galapagos Islands have commanded worldwide attention. The birthplace of Darwin's *Origin of Species* and home to an array of animal and plant life found nowhere else in the world, the archipelago has become a model for international conservation efforts.

The islands' giant tortoises, Darwin's finches, marine iguanas, blue-footed boobies, and other species have evolved over a million years the adaptive traits specific to their isolated environment 600 miles off the coast of Ecuador. Having developed in the absence of predators, the wildlife knows no fear; visitors can swim with sea lions, stroll with iguanas, and observe a strikingly clear picture of why life on our planet has developed as it has.

A cooperative management effort between the Charles Darwin Research Station (a private scientific organization) and the Ecuadorian National Park Service (a government agency) maintains the islands' nearly pristine natural conditions. The Darwin Station's scientific research and expertise, combined with the Park Service's effective man-

Frans Lanting

Feodor Pitcairn

Frans Lanting

Above: Like giant boulders, Galapagos tortoises rest in a pond on Isla Isabella. Top right: Visitors to the Islands are rewarded with endless opportunities to observe the natives, such as this Galapagos hawk in a tête-à-tête with two curious sea lions. Right: A botanist at the Darwin Research Station takes advantage of the Islands' excellent natural conditions to study Isla Isabella's vegetation.

agement, have saved unique races of tortoises from extinction, eliminated feral animals from many of the smaller islands, and unobtrusively regulated the thousands of visitors who travel to the islands annually.

But the future protection of the Galapagos is now threatened by the Darwin Station's drastic shortage of funds. Many important programs have been scaled down; some have been discontinued completely. To ensure the station's key role, The Nature Conservancy—together with S. Dillon Ripley and the Smithsonian Institution—has launched a two-year effort to raise a $1.5 million endowment fund. The fund will provide the station with a steady core of support, guaranteeing the continuity so essential to its activities and to the future protection of one of the world's greatest natural treasures.

Organization for Tropical Studies

La Zona Protectora

By Kenneth R. Margolis, Director of Program Development

IN 1983, a group of nine scientists made a ten-day expedition into the unmapped 19,000-acre La Zona Protectora, a tropical forest on Costa Rica's Caribbean slope. During this short visit, they discovered 28 previously unknown plant species; collected 175 butterfly species; found tracks throughout the area of jaguar, tapir, and brocket deer; and, at the end of their expedition, estimated that La Zona harbors 80 percent of all land bird species known in Costa Rica and approximately 40 percent of all tree species.

Even in the tropical latitudes, which seem to be bursting with biological diversity, La Zona Protectora stands out. The area is an elevational transect—a forested strip approximately two miles wide, running from 114 feet above sea level to a height of 5,500 feet. In the tropics, the climatological differences and migration routes that we are used to seeing on a north-south axis occur on an altitudinal axis. Consequently, many migratory bird species live their entire lives within La Zona, moving up and down with the changing seasons.

In December 1984, the John D. and Catherine T. MacArthur Foundation awarded a $1 million challenge grant to The Nature Conservancy. Working with Costa Rica's National Parks Foundation, the Organization for Tropical Studies, World Wildlife Fund-U.S., and the National Park Service of Costa Rica, the Conservancy matched the $1 million grant during 1985. It also supervised the first group of acquisitions totaling more than 7,000 acres within La Zona, used grant funds to hire guards and provide management equipment, and participated in drafting a management plan for the area.

Kjell B. Sandved

Exploring this emerald forest (top), expedition members discovered many previously unknown plants and sighted several known—but elusive—animals, such as brocket deer (above).

At its lower end, La Zona is adjacent to La Selva Biological Station (operated by the Organization for Tropical Studies), one of the world's most important centers for tropical research and education. On its upper end, La Zona connects with Braulio Carrillo National Park, which takes in the cloud-forest-covered summits of several extinct volcanoes. La Zona is slated to become part of this park by the end of 1986, at which time the Costa Rican National Park Service will take over its management.

ECOLOGY FORUM

No. 58
by Guillermo W. Mann
Director of Science, International Program

CONSERVATION PLANNING IN THE NEOTROPICS

Over the past ten years, private and governmental organizations spent nearly $100 million for conservation projects in Latin America. That is equivalent to ten years of annual salaries for more than 1,000 conservation professionals—40 conservation professionals in each and every country in the region.

Considering these substantial expenditures, we should be able to point to important and lasting achievements in the regional capacity for natural diversity conservation. Viewing the situation objectively, however, we cannot identify such progress. Indeed, conservation problems of all types in every country are increasing, and conservation activities in most countries are more limited than should be expected in relation to the funds invested.

Why? Traditionally, international conservation aid has favored directly safeguarding specific species and/or natural areas. But immediate protection of a single species or tract of land will accomplish little for preserving biological diversity in a country whose social and economic problems are exerting increasing pressures on its natural resources. Under such conditions, international conservation aid is far more effective if it focuses on fostering local and national efforts instead of direct protection endeavors.

Biological diversity conservation in developing countries is a complex problem defined by local economic, social, and cultural parameters. Only a comprehensive, sustained approach that takes these parameters into consideration can generate support and succeed. It is not enough to start a conservation project or a biological inventory. An organization also must have the ability to place that program or inventory in the correct institutional framework of a country, where it will attract the backing of decision makers who can secure the necessary ongoing legal, financial, and technical support. Any comprehensive program must be aimed at systematically building institutional capacity, country by country, for the identification, protection, and stewardship of the biological elements requiring preservation.

The most basic tool needed to identify a country's conservation problems and priorities—and to plan for specific preservation projects—is a system for gathering, supplying, and retaining information on biological diversity. This information management capacity is not now present in most Latin American countries.

There are two requirements for developing such an information management capacity: the methodology and technology necessary for data management must be available, and an operational structure and effective organizational position within each country's institutional framework must exist. The Nature Conservancy is uniquely equipped to assist in meeting both requirements. Twelve years of experience with natural heritage programs in the United States provide us with a superb methodological base, and the establishment of numerous Conservancy chapters and field offices has honed our managerial, financial, and program-development skills.

During the past three years, the Conservancy's International Program has helped to establish four fully operational conservation data centers (CDC's)—in Costa Rica, Colombia, Puerto Rico, and Peru—and one program with many features of a CDC in the Netherlands Antilles. Negotiations are underway in nine other Latin American countries to establish 12 new CDC's over the next two years.

Like the state heritage programs upon which they are based, conservation data centers are biological inventories carried out country-by-country. Natural heritage methodology is a demonstrably effective and efficient tool that, with very minor adaptations, is being applied homogeneously in all countries. Such an approach ensures the accuracy of information gathered by CDC's and facilitates

the exchange of biological data. In each country, the CDC acts as a bridge between the various national and foreign sources of information (including collections, museums, and universities) and the private and governmental users of that information.

To support the development of these programs, a regional conservation data center has been established in the International Program offices in Washington, D.C. This computerized data base summarizes local biological information and establishes conservation priorities at the regional level in a manner similar to the Conservancy's U.S. program for the global ranking of biological diversity elements. The data base also can transfer basic biological information about the neotropics from United States sources into a relevant country's CDC.

Detailed maps showing the distribution of natural vegetation and biogeographic units (such as the Panama-Costa Rica Highlands) with their own complement of species have been prepared for regional evaluation and to serve as a "coarse filter" of natural diversity information for each CDC. The computerized data base on the 9,300 species of higher vertebrates native to Latin America and the Caribbean is now the most extensive data base for the neotropics. It includes information on the condition and distribution (both ecological and geographical) of species in addition to the most accurate and current data available on systems of parks, reserves, and protected areas in all Latin American countries. Up-to-date information on contemporary land-use patterns and trends also is being compiled. When this task is completed, it will be possible to assemble an overview of the status of natural diversity in the neotropics along with a regional, general ranking of conservation priorities.

Operational efficiency within each conservation data center and methodological consistency among them are absolutely necessary. To lend assistance in those regards, the International Program supplies resident and visiting advisers and has established a CDC network that provides training opportunities, administrative support, and a quarterly newsletter ("Diversidata"). It also holds annual technical working sessions at which all CDC staffs meet to share problems and ideas. These practices, plus periodic visits to each country by International Program staff members, keep The Nature Conservancy in constant touch with the data centers' needs and foster close relationships among the CDC's.

Conservation data centers appear to be a viable and efficient way to build permanent, ongoing information management systems in each country. These systems may ultimately help developing countries preserve their biological diversity and sustain the use of their natural resources.

Special Membership Meeting

The Chairman of the Board of Governors has called a special meeting of the membership of The Nature Conservancy to be held on Friday, March 7, 1986, at 11 a.m. at Airlie, Virginia. (The meeting is being held there to coincide with a planning conference of staff and chapter representatives from across the country and with a meeting of the national Board of Governors.) The purpose of the meeting is to vote on a bylaw change proposed by the Board of Governors. The change is designed to give the Board the authority to set categories of annual membership.

At present, the Board has the authority to change all annual categories except the $10 individual membership. The Nature Conservancy has not changed its basic membership dues structure since the 1960s, in spite of a large increase in the cost of all aspects of running the organization and saving a great deal more land annually.

Following the proposed change in the bylaws, it is anticipated that the staff will propose, and the Board will approve, increases in the basic cost of individual membership dues from $10 to $15, family membership dues from $15 to $20, and contributing membership dues from $25 to $35. The changes would be applied as existing memberships come up for renewal.

Proposed Bylaw Change

Strike the following:

"c) **Annual.** Individuals eighteen years or more of age or organizations, contributing ten dollars or more; or individuals under eighteen years of age contributing five dollars or more to the Conservancy, in such categories as the Board of Governors may from time to time establish, who are elected by the Board."

Replace as follows:

"c) **Annual.** Individuals or organizations, contributing annually to the Conservancy, in such categories and in such amounts as the Board of Governors may from time to time establish, who are elected by the Board."

NEW PROJECTS

CALIFORNIA

Coachella Valley—Addition—(Riverside County). This desert oasis near Palm Springs sustains one of the state's largest groves of increasingly scarce desert fan palms *(Washingtonia filifera)*, and its surrounding sand dunes are habitat for the nationally threatened Coachella Valley fringe-toed lizard *(Uma inornata)*. With a 2,150-acre purchase, the Conservancy now has protected the lands harboring *Uma's* highest concentrations. The addition will be transferred to the U.S. Fish and Wildlife Service. Targeted by the National Wetlands Conservation Project and the Katharine Ordway Endangered Species Conservation Program, the 10,862-acre preserve is managed cooperatively by the Conservancy, the Bureau of Land Management, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game.

CONNECTICUT

Burnham Brook Preserve—Additions—(Town of East Haddam). One of the Conservancy's oldest projects and a priority of the Connecticut Critical Areas Program, the sanctuary features ledges and rocky outcrops, permanent springs, a wooded vernal pool, red maple swamps, and portions of two unpolluted streams. Its roster of species includes 153 birds, 26 mammals, 13 reptiles, 12 amphibians, 38 trees, 184 flowering herbs, and 26 ferns. Four additions here—two purchases totaling 35 acres and donations from Esther and Dick Goodwin on 153 acres—extend Burnham Brook to 415 acres. It is managed by the Connecticut Chapter.

Gregg Property—Addition—(Town of Wilton). Laced by well-maintained trails, this preserve supports an oak/hickory upland forest. With a 52-acre gift from Janet K. Gregg-Howell, the woodland sanctuary now totals 74 acres. It is owned and managed by the Wilton Land Trust.

Rock Spring Wildlife Refuge—Addition—(Town of Scotland). Already linked to the preserve's trail system, this seven-acre gift from the estate of the late David O. Shoemaker (donor of previous parcels here) embraces a scenic viewpoint overlooking the refuge. Below, stands of oaks, hickories, and native white pines—interspersed with kettlehole ponds and open meadows of sedges and grasses—stretch down to the pristine Little River. Now totaling 444 acres, the refuge is managed by the Connecticut Chapter.

Sheffield Island (City of Norwalk). Lying in Long Island Sound, Sheffield is one in a chain of islands within the Norwalk Island Archipelago that's noted for its bird nesting habitat (as is nearby 70-acre Chimon Island, acquired by the Conservancy in 1984). A purchase of 47 acres protects most of the isle and its diverse nesting species: glossy ibis, double-crested cormorants, and a variety of herons and egrets. A priority of the Connecticut Critical Areas Program and the Conservancy's National Wetlands Conservation Project, Sheffield Island was acquired cooperatively with the City of Norwalk. The property will be transferred to the U.S. Fish and Wildlife Service (as was Chimon) for inclusion in the recently created Connecticut Coastal National Wildlife Refuge.

ILLINOIS

Elizabeth Lake Marsh—Addition—(McHenry County). This wetland on the shore of Elizabeth Lake takes in an acidic bog, a fen, pond and perennial stream communities, and a calcareous peat mat. These habitats harbor a wealth of rare plants, including several that are endangered in Illinois: cuckoo flower, round-leaved sundew, purple pitcher plant, smooth white violet, and hooded ladies' tresses. A 60-acre purchase brings the preserve to 180 acres—all owned and managed by the McHenry County Conservation District.

INDIANA

Ivanhoe Dune and Swale—Addition—(Lake County). Endangered in Indiana, this uncommon inland dune and swale community bears dry/mesic sand prairie, savanna, and wet sand swales. It supports populations of plains pocket gopher and paper birch, both rare in the state, as well as the uncommon large yellow lady's-slipper. With a three-acre purchase, the preserve now embraces 33 acres. A project of the Indiana Natural Heritage Protection Campaign (a joint Conservancy/state effort), Ivanhoe Dune and Swale is managed by the Conservancy's Indiana Chapter.

IOWA

Silver Lake Fen (Dickinson County). Embracing three fens (natural communities endangered in Iowa), this outstanding aquatic complex sustains

several plant species critically imperiled in the state: water-parsnip, spikerush, swamp aster, small bladderwort, and beaked and alpine rush. A management agreement among the owners (Robert and Jeanine Gunderson), the Conservancy, and the Iowa Conservation Commission safeguards a five-acre portion of one of the two best fens here and completes protection of the entire complex—the rest of which lies within the boundaries of the Silver Lake State Game Management Area.

MICHIGAN

Grand Mere Lakes and Dunes (Berrien County). A national natural landmark, this site bears three inland lakes, massive sand dunes, and over a mile of Lake Michigan's shoreline. Its varied natural communities include four listed as endangered or threatened in the state: open dunes, dry oak forest, dry-mesic oak forest, and calcareous wet mesic prairie. The latter community hosts rose gentian, a plant species threatened in Michigan. Two purchased parcels totaling 469 acres will be transferred to the Michigan Department of Natural Resources for management within Grand Mere State Park.

NEW YORK

Dwarf Pine Barrens—Additions—(Suffolk County). Donations of 75 acres from the North Fork Bank and Trust Company and one-tenth of an acre from Ellen R. Caswell expand protection to 520 acres. Managed by Suffolk County and the Conservancy's Long Island Chapter, the preserve features part of New York's healthiest and largest contiguous dwarf pine barrens. This endangered natural community is habitat for northern harriers (listed as rare by the New York State Department of Environmental Conservation) and rare breeding buck moths.

Long Pond Greenbelt Preserve (Suffolk County). This series of six interconnected kettlehole ponds and its fragile coastal plain pond shore community (one of the state's two most diverse) shelter 15 significant plant species, including creeping St. Johnswort, white bracted boneset, grass-leaved arrowhead, and short-beaked bald-rush (all ranked by the New York Heritage Program as imperiled in the state). The Conservancy has purchased one-and-a-half acres here—the first parcel for a proposed 425-acre preserve. A top priority of the Long Island Critical Areas Campaign, the site is managed by the South Fork-Shelter Island Chapter.

Mianus River Gorge—Addition—(Westchester County). Thanks to a three-acre gift from Mrs. Lucia Faithfull-Bonsal, the Conservancy's pioneer project now totals 413 acres. The preserve is a hiker's delight, offering a stretch of the scenic Mianus River and its steep-sided gorge, a 20-acre stand of virgin hemlocks, a waterfall, several excellent scenic views, and an outstanding trail system. Managed by a preserve committee, this registered national natural landmark is visited by more than 10,000 people each year.

NORTH CAROLINA

Southwest Ridge (Pender County). Isolated by 30,000 acres of pocosin (evergreen shrub bog) and boasting a large nesting population of the globally endangered and federally listed red-cockaded woodpecker (*Picoides borealis*)—this mile-long, slender sandy ridge is one of the most significant longleaf pine/wiregrass savannas left in North America. Also, rough-leaf loosestrife (*Lysimachia asperulaefolia*), a critically endangered plant species endemic to North Carolina, grows along the ridge's margins. The Conservancy assisted the state in securing, through a land exchange, 800 acres here, including a one-half undivided interest in the 90-acre ridge. In addition, Mr. and Mrs. W. Ferebee Sledge donated to the Conservancy the other half interest in the 90-acre tract along with a generous outright gift of 110 acres. Totaling 910 acres, the preserve will be added to state game lands managed by the North Carolina Wildlife Resources Commission.

OHIO

Morgan Swamp (Ashtabula County). This 1,000-acre wetland complex embraces a mixed swamp forest (endangered in the state), alder thickets, large bodies of open water, and islands of deciduous woods. These diverse communities provide important wildlife habitat and support some two dozen rare plant species, including several ranked by the Ohio Natural Heritage Program as endangered or threatened in the state: painted trillium, pipsissewa, bunchberry, robin-run-away, and long and brownish sedges. A 350-acre purchase here will be managed by the Conservancy's Ohio Chapter.

Schwamberger Prairie/Kitty Todd Preserve—Addition—(Lucas County). Two purchases totaling seven acres extend protection for one of the finest remaining oak savannas in Ohio's "oak openings region" (an expanse of low-lying swell and swale sand ridges west of Toledo). The Ohio Chapter manages the 101-acre preserve, which harbors lance-leaved violets, twisted yellow-eyed grass, and 37 other plants listed as endangered or threatened in the state. What's more, it is a breeding site for the Karner blue butterfly, a candidate for federal protection.

Dave Bohn

Kern Lake Preserve

An island of native vegetation in a sea of cotton fields, Kern Lake Preserve embraces three ecologically significant natural communities: freshwater marsh, alkali meadow, and iodine bush scrub. Gator Pond, in the sanctuary's eastern quarter, lies near the shoreline of now extinct Kern Lake. This once vast body of water and marshlands desiccated as it was drained and as California's Kern River was dammed and its flow diverted for agriculture.

Covering some one to five acres, depending on its varying water levels, Gator Pond is edged by cattails and marsh vegetation, then by willows and cottonwoods. Enveloping this aquatic system are the alkali meadows. The saltiest of these—the alkali sinks on the preserve's western side—are the sole known site in the world for Bakersfield saltbush *(Atriplex tularensis)*. A globally imperiled plant species, the saltbush is a candidate for federal protection. In addition, the meadows harbor a robust population of alkali bird's-beak *(Cordylanthus mollis,* spp. *hispidus)*, a nationally endangered plant species also under review for federal listing. This is its only recorded stand in the southern San Joaquin Valley. Occurring slightly upslope from the alkali meadows, the iodine bush scrub supports several patches of pickleweed, now nearly extinct in the valley.

A lease on 83 acres from the J.G. Boswell Company spells protection for Gator Pond and its surrounding rare communities with their treasure trove of uncommon native plant species. The area has been fenced, exotic tamarisk trees are being removed, and further management plans call for rejuvenating the pond's shrinking water levels—either by pumping or channeling water into it. Kern Lake Preserve is cared for by a professional Conservancy land steward.

TENNESSEE

Chickasaw National Wildlife Refuge (Lauderdale County). Encompassing parts of the largest remaining tract of Mississippi floodplain forest left in Tennessee, Kentucky, and Missouri, this 5,832-acre area is a nationally significant wintering habitat for some 125,000 ducks and geese, as well as a primary nesting site for the Mississippi kite—a bird endangered in Tennessee. The Conservancy purchased these seasonally flooded bottomland hardwoods (previously known as the Anderson-Tully Bottoms) and transferred them to the U.S. Fish and Wildlife Service to create the new Chickasaw National Wildlife Refuge. The Service secured the property with funds from the Migratory Bird Commission.

WASHINGTON

Barker Mountain Preserve—Addition—(Okanogan County). Embracing the upper third and mid-level slopes of Barker Mountain in northern Washington, this mosaic of native grasslands and ponderosa pine/Douglas fir coniferous forest supports antelope bitterbrush/Idaho fescue and antelope bitterbrush/bluebunch wheatgrass associations (both threatened in Washington), as well as threetipped sagebrush/Idaho fescue—a plant community ranked as endangered in the state. Managed by the Washington Field Office, the preserve now contains 140 acres, including this 100-acre purchase.

BUY A TOY TO SAVE A SPECIES

Delight a child with a beautiful stuffed animal—and help the Conservancy save the real thing!

"Special Friends" have been designed to represent endangered animals. Available this year are Dexter the Black-Footed Ferret and Julio the Spectacled Bear.

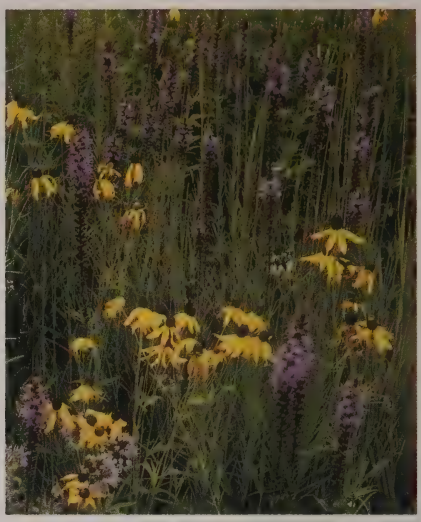
The toy will arrive in a habitat display box—a durable replica of the animals' home terrain—with a certificate that recognizes the purchaser for his or her contribution and describes the species, its plight, and efforts to protect it.

Send your check ($30 for the ferret or $35 for the bear, plus $3.25 for shipping) to:

Special Friends
Dexter-Portfolio Company, Inc.
P.O. Box 10
Joseph, Oregon 97846

If you wish to charge your purchase to a Visa or MasterCard account, call (503) 432-5805 or (outside Oregon) 1-800-8DEXTER.

Remember, a portion of your check will go to the Conservancy—so the gift works two ways.



Gary Meszaros

1986 ANNUAL MEETING AND CONFERENCE SEPTEMBER 24-28 ST. LOUIS, MISSOURI

The "Gateway to the West" will be the launching point for the Conservancy's new strategic plan to be announced at the 1986 Annual Meeting and Conference. Near the banks of the mighty Mississippi, Conservancy leaders, members, and staff will gather to hear presentations on the plan, sit in on national Board of Governors committee meetings, elect national leaders, and present awards to the Conservancy's finest volunteers.

Through special weekend events, participants can take in St. Louis' famous sites including the world renowned Missouri Botanical Garden, the popular St. Louis Zoo, and the Gateway Arch and Jefferson National Expansion Memorial, located only steps from the headquarters hotel.

In addition, plans for this year's field trips include two full-day canoe trips and visits to native prairies, unique cave habitats, and cypress sloughs. The Missouri Chapter has enlisted expert guides to accompany Conservancy participants on trips on Thursday, September 25, and Sunday, September 28. These field adventures are always the highlights of the meetings, as anyone who has attended in the past will attest.

Additional information and a complete registration packet will be available by mid-May. Write to: Manager, Meetings and Training, The Nature Conservancy, 1800 N. Kent St., Arlington, VA 22209. Mark your calendars now to "meet us in St. Louis."

Field Trips & Tours

Twice a year, beginning with this issue, the News *will list field trips offered by Conservancy chapters and offices across the country. Members are invited and encouraged to participate in these events. When writing for more information, please refer to the field office addresses on the back cover unless another address is given.*

Birdwatch at Montana's Pine Butte Swamp

Join us this May 26-30 as the spectacular East Front of the Northern Rockies comes alive with more than 175 species of migrating and nesting birds, wintering bighorn sheep and mule deer, plains grizzlies descending from their dens, and brilliant flowering alpine plants. Five days of birdwatching in the lush foothills and wetlands of the Pine Butte Swamp Preserve will be led by two of Montana's best naturalists. Wildflower walks, geology treks, and dinosaur fossil hunts will also be offered. Food and lodging will be provided at the Preserve's Circle 8 Guest Ranch. Cost is $650 per person (60 percent is a tax-deductible donation to the Pine Butte project). For details, contact Cindi McAllister, Pine Butte Swamp Preserve, Star Route 34 B, Choteau, MT 59422/(406) 466-2377.

Natural History Tour of Maui and Molokai

The Hawaiian Islands are home to a fascinating diversity of plant and animal species found nowhere else on earth. More than one quarter of the nation's endangered and threatened species cling to survival here. Many of these unique natural treasures inhabit the forest, bog, and stream ecosystems that lie within Conservancy preserves on the islands of Maui and Molokai.

The Nature Conservancy of Hawaii invites you to participate in a guided natural history tour of Maui and Molokai that highlights our world-class preserves. Seven-day tours will begin in Honolulu each Sunday between May 4, 1986, and June 14, 1986, and again between October 5, 1986, and November 15, 1986. Each tour is limited to 8 people. Cost is $1,500.00, including accommodations.

For more information, contact the Hawaii Project Office.

Photography Workshop

On the weekend of May 2-4, 1986, a nature and wildlife photography workshop will be held at the Conservancy's Virginia Coast Reserve. Both amateur and professional photographers are invited to learn techniques of nature photography through lectures, slide shows, and field trips to the barrier islands that make up the reserve. For more information about this workshop and other spring natural history programs, write: John M. Hall, Virginia Coast Reserve, Brownsville, Nassawadox, VA 23413 or call (804) 442-3049.

Montana Wilderness Horsepack Trips

Adjacent to the Conservancy's Pine Butte Swamp Preserve in Montana is a wilderness area encompassing more than 1 million acres—the Bob Marshall. Known for its pristine lakes and streams, mountain vistas, and abundant wildlife, the "Bob" offers visitors a rare glimpse into America's Rocky Mountain wilds. The Montana/Wyoming Field Office invites you to join us for ten-day horsepack trips into this rugged ecosystem during the summer of 1986. The cost is $1,850 per person (partially taxdeductible). For details, contact Benjamin Pierce at the Montana/Wyoming Field Office.

Montana Fly-fishing Float Trips

The Yellowstone, Smith, North Fork of the Flathead, Madison, Big Hole, and Big Horn Rivers offer some of the finest fishing and scenery left in the lower 48 states. Trips for members and friends are available on these and other rivers between June 1 and September 30 through the Montana/Wyoming Field Office. Cost is $225 per day (partially tax-deductible) with trips running from three to seven days. Birders and photographers are welcome. Food is gourmet; weather is unpredictable! For details, write to Benjamin Pierce at the Montana/Wyoming Field Office.

Rio Chama Natural History Raft Trip

Ride the spectacular Rio Chama as it winds through beautiful multi-colored sandstone cliffs. Make camp and explore the natural history of the land that Georgia O'Keeffe made famous. This trip features a mixture of natural history interpretation and leisure time for participants to enjoy short hikes, exploration, two overnights at the river's edge, and the area's abundant beauty and solitude. Cost is $1,000.00, partially tax-deductible, and includes all meals as well as transportation from Albuquerque and back. For more information, write to John Egbert or Marlis Hadley at the New Mexico Field Office.

Washo Reserve Hike and Boat Excursion

This 1,040-acre reserve is one of the oldest wading bird rookeries in continuous use in our nation. The reserve harbors several species of wading birds and contains one of the largest nesting concentrations of osprey in South Carolina. Consisting of an easy one-mile walk along the Washo nature trail and boardwalk, as well as a

short boat excursion into the inner reaches of the Washo, this half-day trip runs from 11:00 a.m. to 2:00 p.m. on March 1, 1986, beginning at the Santee Coastal Reserve. The trip is limited to 20 people and participants should bring a lunch, beverage, life preserver, field glasses, and insect repellent. For more information, contact Roger Jones at the South Carolina Field Office.

Flat Creek Natural Area and "40 Acre" Rock Hike

Perhaps one of the most diverse areas in the southeast, this 335-acre preserve was recently designated a National Natural Landmark. From granite rock outcrops harboring the nationally endangered pool sprite to the rich hardwood forest, this Lancaster County site is one you won't want to miss. The two-mile hike, on April 5, 1986, from 1:00 p.m. to 3:00 p.m., is on moderate to difficult terrain (steep slopes) and limited to 25 people. Participants should bring a lunch and beverage. The trip leader will be John Nelson of the South Carolina Wildlife and Marine Resources Dept. For more information, contact Roger Jones at the South Carolina Field Office.

Hike the Savannah River Bluffs

Majestic bluffs and steep ravines characterize the latest project undertaken in South Carolina. Walk along the path William Bartram first described in the late 1700's and catch a glimpse of the spectacular assemblage of rare plants growing here, along with the uncharacteristic piedmont spider lily. The moderate 1 1/2-mile hike will be held on October 18, 1986, from 10:00 a.m. to 2:00 p.m. and will be led by Dr. Doug Raynor of the South Carolina Wildlife and Marine Resources Dept. Participants should bring a lunch, beverage, and insect repellent. For more information, contact Roger Jones at the South Carolina Field Office.

Field Courses at Sycan Marsh

Along the interface of Oregon's Cascade Range and the Great Basin lies the Conservancy's 25,000-acre Katharine Ordway Sycan Marsh Preserve. After a very successful first year, we will again offer natural history field courses on the preserve from May-July 1986. Each course embraces botany, general natural history, ornithology, geology, and land-use patterns of the region. Excursions will take in vast alkaline Summer and Warner Lakes, the spectacular fault-block mountains Hart and Winter Rim, sage and greasewood deserts, forests of pine and fir, and freshwater wetlands hosting some 200 breeding greater sandhill cranes along with bitterns, pelicans, waterfowl, curlews, and phalaropes.

Transportation, meals, and tents for staff and nine participants per session will be provided. The rustic cabin for meals and evening relaxation makes a perfect setting in the meadow campsite. The cost is $850 per ten-day session. For further information, contact Geoff Pampush at the Oregon Field Office.

Tui De Roy Moore

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For more information, write: Ray Culter, Trade Lands, The Nature Conservancy, 1800 N. Kent Street, Arlington, Virginia 22209; or call (703) 8412-5327.

Editor's Note

Why is this the January-March 1986 *News*? Compiling information for the next issue, the 1985 Annual Report, is a time-consuming task. To help *News* editors circumvent scheduling problems caused by that issue, the Annual Report will henceforth be the April/May *News* (to be published in April), and the following *News* issues will be: June/July, August/September, October/November, and December/January.

NEW LIFE MEMBERS

An individual becomes a Life Member of The Nature Conservancy upon contribution of $1,000 for membership dues or for the Land Preservation Fund, Guarantee & Income Fund, or a State Land Preservation Fund. Husbands and wives may hold a joint life membership for a single qualifying contribution.

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